

PROCEEDINGS

of the

American Society

of

Civil Engineers

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No. 5

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SOCIETY AFFAIRS

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AMERICAN SOCIETY OF CIVIL ENGINEERS

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SOCIETY AFFAIRS

SUMMER MEETING, 1930

Advance Plans Show Cleveland Will Be Ideal Host

Although the Cleveland meeting is still two months away, extensive plans covering many of its details are already in process of development by an energetic committee. These plans include most of the week of the meeting, although the actual sessions will occupy only three days.

The meeting of the Board of Direction early in that same week has not escaped the attention of the Cleveland Committee, and plans include entertaining the official visitors before the regular meeting starts. In addition, a Local Sections Conference is planned on the Tuesday preceding the beginning of the official meeting on Wednesday.

Among the engineering features which will receive intimate attention, perhaps the most important in its general scope is the matter of Metropolitan Planning, not only with respect to municipal features, but especially as to transportation. In both these developments the City of Cleveland is an outstanding example.

At least five of the Technical Divisions expect to hold sessions. Individual meetings of the Sanitary Engineering, City Planning, and Waterways Divisions are projected, in addition to a joint meeting of the Construction and Structural Divisions.

In the matter of inspection trips the meeting will be likewise well provided. One of these will take a large party to Akron, Ohio, there to visit the tremendous Airship Factory and Dock of the Goodyear Zeppelin Corporation. This massive structure has its fascinating features from the standpoint of the structural and construction engineer, as well as of every citizen interested in the future of air transportation.

Still another trip will cover the extensive building of the Cleveland Union

Terminal, and also the Shaker Real Estate Projects. Many of the absorbing features of railroad, highway, and rapid transit development in their most modern aspects will be on view.

In addition, of course, the usual luncheons, ladies' trips and entertainments, dinners and dances, will add to the enjoyment of the meeting. This advance notice is only preliminary to the final program which will be issued in good season. Plans for the summer should not overlook the possibility of including Cleveland in one's itinerary. The excellence of the many preliminary arrangements promises well for the consummation of this splendid program.

PROFESSORS AVAILABLE

An innovation may be noted in the arrangement of the regular announcement of the Engineering Societies Employment Service in this issue. Grouped together at the very beginning will be found the experience records of a number of engineers who will be available during the coming year for teaching positions.

In the list a wide variety of experience and qualifications is apparent. The fact of membership in the Society is a guaranty that these men have the background so essential in their profession. With respect to age, teaching experience, and special fields these names should provide the necessary diversity to meet almost any requirement.

Doubtless many institutions are now studying their needs for the coming year, and will be glad to make the provisions for the teaching staff at an early date. To such, the Employment Service is commended for serious consideration.

MARCH SOCIETY MEETING

As a matter of record it is to be noted that a regular meeting of the Society was held on the evening of March 19, 1930. This was called at Society Headquarters, in conjunction with the regular meeting of the New York Section, particularly to canvass ballots for amendments to the Constitution. The official report of this action will be found elsewhere in these items of interest. After the appointment of the Tellers and listening to their report, there being no other business, this meeting of the Society was adjourned.

THE SOCIETY SPONSORS A SUMMER SCHOOL FOR ENGINEERING TEACHERS

Each year since 1927 the Society for the Promotion of Engineering Education has conducted one or more sessions of its Summer School for Engineering Teachers, an enterprise designed to aid in bringing about improvement in teaching the principal subjects and divisions of engineering curricula—as some one has put it “to teach the teachers to teach”. One of the sessions of this unique school, to be held at Yale University in July, 1930, is to be devoted to the study of methods of teaching civil engineering. The American Society of Civil Engineers has assisted in sponsoring this particular school through vote of the Board of Direction, an action signaling the Society's concern in matters relating to the preparation of young men for careers as civil engineers and for membership in a professional body.

Practical Demonstrations

This session, like its predecessors, is to be spent largely in study and discussion of methods of teaching; but a fairly large part of the program is to be devoted to topics coming more strictly within the realm of subject-matter and of professional practice, this having the purpose of bringing the teachers into direct contact with the methods and points of view of the practitioner and thus of aiding in keeping content and method of teaching abreast of current developments.

The entire program of the session, which extends from July 1 to July 23, inclusive, is divided into two major parts: One of these is common to all the teachers in attendance; the other is sub-divided into three parallel portions with meet-

ings held simultaneously for groups of teachers of structural engineering, sanitary and hydraulic engineering, and highway and railway engineering, respectively.

Since the period of the Summer School session is comparatively brief (made necessary by other summer employment of the teachers) the work is conducted intensively with lectures, demonstrations of teaching practices, seminars, and other scheduled activities occupying most of the hours of the day and evening for six days each week. Opportunity is afforded, however, for recreation and for informal conference of members and staff—a feature that has proved to be of great value.

Pleasant Associations

All the members of the school and the staff live together for the period of the session, this year in the Vanderbilt Scientific Dormitories, except for a period of three days when the entire party will move to the Yale Engineering Camp at East Lyme, Conn. All the teachers, who represent a wide range of rank, age, and experience, and who come from all parts of country, are thus thrown together intimately. Experience has shown that this association leads not only to the formation of friendships, but also to the exchange of information and ideas as to teaching methods and as to engineering education generally, and that it has a distinctly broadening effect on those who attend.

The Staff of the session on Civil Engineering has been selected from among the most noted teachers and practicing engineers of the country. The list which comprises fifty-one individuals is a most impressive one and includes a large proportion of Society members and present or former officers. It has become necessary to place a limit on the enrollment in order to keep the sessions within the scope of an intimately related group. This limit has been set at one hundred, exclusive of members of the Staff.

Directing Personnel

These sessions are being directed by J. C. Tracy, M. Am. Soc. C. E., as Local Director, with R. H. Suttie, M. Am. Soc. C. E., as Secretary. H. P. Hammond, M. Am. Soc. C. E., 99 Livingston Street, Brooklyn, N. Y., is General Director of the Summer Schools of the Society for the Promotion of Engineering Education, from whom further information can be secured.

The American Society of Civil Engineers has co-operated in planning the

session through the services of an Advisory Committee comprising James H. Edwards, *Chairman*, R. W. Crum, T. Chalkley Hutton, and John C. Hoyt, Members, Am. Soc. C. E.

TWENTY-FIFTH ANNIVERSARY, AUTOMOTIVE ENGINEERS

The year 1930 seems to be the special season for engineering anniversaries. Right on the heels of the celebration of the Fiftieth Anniversary of the American Society of Mechanical Engineers comes a series of meetings of the Society of Automotive Engineers, to be held May 25-29, at French Lick Springs, Ind., to commemorate the Twenty-fifth Anniversary of its founding.

In a way these Societies have a great deal in common, inasmuch as each deals quite largely with manufacturing and mechanical phases of present-day industry. Each also is a striking example of progress and advance in technical engineering matters.

Particularly impressive is the remarkable growth of the automotive industry. Especially is this emphasized because it has happened within the quite recent memory of most living men. Similarly, it has impressed American civilization markedly by affecting and changing the very basis of daily life, the traffic problem of every city, and the vast engineering details concerned in the design and construction of a far flung system of National through highways.

As a constructive force in this great movement, the Society of Automotive Engineers has had a large place. All engineers, therefore, can congratulate it on this, its Twenty-fifth Anniversary and wish it deserved success in the future developments with which it is to be so intimately identified.

ENGINEERS' UNIFORM REGIS- TRATION LAW

Of late, events have been moving, quickly toward the consummation of a greatly desired improvement in the status of registration of engineers; namely, the general adoption of a uniform registration law.

For years the Society has had a recommended form originating as far back as 1921. This, however, was not generally accepted although most of its features

were widely approved. The National Council of State Boards of Engineering Examiners at its meeting during the summer of 1929 considered this matter, and while it was in general accord with the provisions of the Society's draft, it had a few changes to recommend. One of the main points was that the law should receive the official recognition of a great many organizations which would be vitally interested in its working.

The Council thereupon requested that the Society's Committee on Registration of Engineers, with the collaboration of representatives from certain other Societies, re-draft the proposed law in the light of the recommended changes. In October, 1929, the Board of Direction approved this project, and instructed the Committee to proceed immediately.

As a result a series of meetings has been arranged, out of which has emerged finally a "Recommended Uniform Registration Law for Professional Engineers and Land Surveyors". As a measure of the study that has been given this matter it is interesting to note the impressive list of Societies' representatives in negotiation, as follows: American Society of Civil Engineers; American Society of Mechanical Engineers; American Institute of Electrical Engineers; American Association of Engineers; New York State Society of Professional Engineers, and Land Surveyors; and National Council of State Boards of Engineering Examiners.

In its present status the law has the definite approval and recommendation of representatives of all these Societies. As yet, however, it has not received official sanction from the various organizations. As soon as this step has been taken, it will be in order to give the maximum publicity to the exact form of the law.

In the meantime, the law is being printed by the Society for distribution among interested organizations. It is hoped that shortly with the necessary official sanctions, this law may be promulgated throughout the country to serve as a form for general adoption. Thereby it will accomplish a long-needed reform in effecting the consistent treatment of one of the vital problems now before engineers in America.

APPOINTMENTS OF SOCIETY REPRESENTATIVES

Among those recently appointed to represent the Society may be noted the following:

To attend the Semi-Centennial of the Case School of Applied Science and the Inauguration of William Elgin Wicken- den as President, April 11, 1930: Am- brose Swasey, Hon. M. Am. Soc. C. E.

To attend the Inauguration of Homer LeRoy Shantz as President of the Uni- versity of Arizona, at Tucson, April 24, 1930: W. E. Dickinson, M. Am. Soc. C. E.

To attend the Dedication of the New Campus and Buildings of the University of California, at Los Angeles, March 27-28, 1930: Franklin Thomas, M. Am. Soc. C. E.

To attend the Dedication of the Uni- versity Library at Lehigh University, Bethlehem, Pa., April 25, 1930: C. W. Hudson, M. Am. Soc. C. E.

To attend the Unveiling of the Statue of the late Samuel Rea, Hon. M. Am. Soc. C. E., former President, the Pennsylvania Railroad Company, in the Pennsyl- vania Station, New York, N. Y., April 9, 1930; George Pegram, Past-President, Am. Soc. C. E., and George Gibbs, J. Vipond Davies, Charles Warren Hunt, and Francis Lee Stuart, Members, Am. Soc. C. E.

PROPOSED AMENDMENTS TO THE CONSTITUTION

The following is the report of the Tellers on the ballot canvassed March 19, 1930:

"33 West 39th Street,
New York, N. Y.,
March 19, 1930.

"TO THE SECRETARY,
AMERICAN SOCIETY OF CIVIL ENGINEERS:

"The Tellers appointed to canvass the ballots on the Proposed Amendments to the Constitution report as follows:

	'A'	'B'	
"Total number of ballots received.....	3 600	3 600	
Deduct:			
Ballots from members in arrears of dues.. 20			
" without signature..... 17			
" from non-corporate members..... 1			
Total number not entitled to vote..... 38			
Ballots canvassed.....	3 562	3 562	
Void ballots.....	0	0	
Ballots counted.....	3 562	3 562	
	Yes	No	Necessary to Adopt
"Shall the Amendment to Article VI—Management (Marked 'A') be adopted?.....	3 454	105	2 375
"Shall the Amendment to Article V—Officers—and to Article VII—Nominations and Election of Officers (Marked 'B') be adopted?...	3 341	213	2 375

"Respectfully submitted,

"THEODORE REED KENDALL,

"Chairman.

"ALFRED T. GLASSETT,
MEDWIN MATTHEWS,
HARRY D. WINSOR,
JAMES H. RICHARDSON,
GEORGE E. BARNES,
A. LAWRIE KURTZ,
KENNETH K. KING,
D. W. HOWES,
AUSTIN H. REEVES,
WILLIAM H. CORREALE,
WILBUR T. WILSON,

"OSCAR F. BELLOWES,
PHILIP SANDER,
JOHN J. COPE,
RALPH H. MANN,
HAROLD M. LEWIS,
H. H. HEMMINGS,
H. A. FOSTER,
MAX BLOCH,
T. F. MCQUADE,
JOHN W. DALY,

"Tellers."

SACRAMENTO ENTERTAINS

As this number of *Proceedings* goes to press, a happy group of members is in the midst of enjoying the Spring Meeting of the Society at Sacramento, Calif. It is not too early, however, to learn of the enthusiastic group that has gathered, nor of the happy sessions, social features, and trips that are to be their source of profit during the meeting. The California spring in all its glory says "Welcome" to every visitor. The days of April 23-25 are busy and happy ones, leaving another pleasant memory of engineering fellowship.

PROGRESS OF WELDING DURING 1929

Especially as Applied to Steel Buildings

That welding is rapidly coming to the fore as a method of engineering construction is evident from consideration of progress made during the year 1929. Among the new applications of this fundamental process may be mentioned its use in connection with vehicular tunnel construction, for the steel tubes under the Detroit River; in the repair of large railroad bridges, one in the vicinity of Pittsburgh, Pa.; in ship construction, including large new American vessels; and even in the building of pile-drivers.

In the forefront of this movement, of course, is the American Welding Society. Its review of the last year's activities, lays special stress on the application of arc-welding to structural steel. During 1929 this continued to be an activity arousing great interest both popular and technical.

Quiet and Economical

The possibility of erecting buildings by this method, thus quieting the clamor in large cities, was principally responsible for the public interest, while the economic advantages, such as savings in weight, were further demonstrated for the benefit of architects, builders, and engineers.

The number of buildings and structures erected by the use of arc-welding materially increased during this period. The first statistics of this nature (July, 1928) showed 100 structures consisting of bridges and buildings. In July, 1929, the total had increased to 138. The number of welded buildings alone jumped from 43 to 65, a 50% increase.

Further demonstration of the reliability of welding as a method of fabrication

was found in the results of a two years' series of tests on welded joints conducted at the Rensselaer Polytechnic Institute. Conclusions based on these tests indicated that the application of arc-welding to the construction of buildings was no longer in the experimental stage, and that such construction can now be made with complete safety and with entirely successful results.

Ordinances Adopted

Widespread activity among municipal and State bodies was noted throughout the year in the adoption of ordinances and laws allowing the use of welding in building construction. In all, fifty-two municipalities in the Western and Southern parts of the country had sections in their building codes covering this point, and many followed suit elsewhere. The Legislature of the State of Pennsylvania has passed a law allowing this type of construction to be used in first-class cities. Municipalities below that grade were already free to adopt their own codes.

A model ordinance, framed by the American Welding Society, was submitted to municipalities for consideration. The City of Pittsfield, Mass., was the first to formally adopt this new building code. In addition, Pittsfield was the first truly Eastern city to incorporate welding in its code in any form.

Steel Building Frames

Many interesting applications of welding to this type of construction were made during 1929, of which a few outstanding examples may be chosen as illustrations. Early in the year an extension to the power house of the Haddon Hall and Chalfonte Hotels, in Atlantic City, N. J., was completed quickly and quietly, without disturbing the guests of either hotel or the residents of the cottages in the neighborhood. This power house has a height of 134 ft. and is one of the tallest welded-steel building frames in the world. Some of the steel columns supporting the building and its weighty contents are of the heaviest type of steel shapes used in building construction.

A 12-story office building has been under construction for the Southern California Edison Company, at Los Angeles, which will contain approximately 3 600 tons of steel. All the wind-bracing and seismic bracing are arc-welded, in addition to other details. According to the information at hand, the building will be 75% an arc-welded job.

New Steel Floor

As announced by the American Institute of Steel Construction in November, 1929, a new type of arc-welded steel floor has been developed, which materially reduces the weight of the structure. Electric welding plays an important part, a special automatic machine being used to "stitch" together the plates and beams which form the flooring. The resulting structure met all specifications and tests satisfactorily.

The new flooring utilizes steel plates and structural steel beams. It is, according to the Institute, better than any floor that has been used heretofore, and will stand every service to which it may be subjected. It is described as being a solid steel deck which acts as a girder to prevent any torsional displacement of the building when subjected to wind or earthquake action.

The total cost of a floor constructed of 3-in. I-beams and 3/16-in. plates, covered on the top with cork tile and fire-proofed on the under side, is estimated as a little more than \$1.00 per sq. ft. For building construction it will save from 20 to 60 lb. per sq. ft. of floor in dead weight. In connection with a 75-story building with floor panels, 21½ by 22½ ft., the saving in dead load on the foundations for each column is nearly 2 000 000 lb.; this indicates that its use will permit an increase of 25% or more in the height of the building or in the number of floors without increasing the loads on the foundations.

EVERYTHING ABOUT LOCK VALVES

Manual of Waterways Division Is Comprehensive and Attractive

What is undoubtedly the most inclusive and authoritative information on the subject of Lock Valves, is given in the booklet just issued by the Society. This "Manual on Lock Valves" is No. 3 in the list of the Society's Manuals.

Of those that have been issued, it is by far the most ambitious in point of size. A vast amount of practical information is compressed within about 100 pages of text matter. Scattered throughout the entire Manual are a number of excellent cuts illustrating many of the engineering and mechanical phases of particular structures. Perhaps no important installation in the world, certainly none in America, has escaped the keen attention of the Committee of the

Waterways Division, headed by L. C. Sabin, M. Am. Soc. C. E.

In arrangement, the Manual begins with a summary compiled by the Committee for the benefit of readers, giving a brief review of what it has found in its intimate study. The kinds of valves, the efficiency of the systems, the experience with surges and safeguards against them, and general operating experiences are all epitomized. Then follow detailed descriptions of all the larger lock valve installations. These are given in the form of appendices, one for each of the twelve main headings. In this way the Manual becomes not only a record of lock valves in general, but a detailed history of many individual structures.

As an instructive volume on this important engineering topic, this Manual should fill a long desired place. It also should provide a guide for Divisions which may be contemplating similar publications. Finally, to every member it will give an interesting and valuable insight into outstanding engineering structures. Copies may be obtained on request from the Secretary.

YEAR BOOK, 1930

By the middle of April, each member should have received his copy of the 1930 Year Book fresh off the press. Overlooking the fact that the color of the cover differs from that of the previous year, in order to identify it easily, this volume appears very much like its predecessors. So much so, in fact, that the unwary member might be led to jump to the conclusion that they are indeed the same.

If this were only so, the Society could easily save a great deal of money because the volumes could be reprinted with no new type. Actually, however, many changes have to be included each year. The officers of course differ from one term to another and Committee members likewise. Much of the information on Society activities remains from year to year. News of the Local Sections and Student Chapters, of course, will differ because of new personnel.

Probably the greatest change, however, is in the part which seems somewhat similar to the former, namely, the list of members. By actual count these alterations from year to year amount to about 20 000 items, each involving the complete resetting of the material for that member. Then, of course, there are always the additions to membership, which have to be inserted at the proper points.

All in all, an immense amount of detailed labor is involved, in order to give members and the public an up-to-date idea of the status of Society membership. Not only as to growth alone—this latest volume shows 14 218 members as of March 1, 1930—but in all the other various and essential activities carried on by the Society, the organization is shown to be growing and virile. This is the important significance of the 1930 Year Book.

STUDY OF EARTHS AND FOUNDATIONS

For a number of years the Society has had committees dealing with soils, foundation conditions, and kindred problems. A large amount of valuable data has resulted, as may be seen from the various reports in Society publications since 1916.

For a renewed attack upon this group of subjects a Committee on Earths and Foundations has recently been appointed, with the following members: Lazarus White, *Chairman*, George E. Beggs, M. L. Enger, R. J. Fogg, Glennon Gilboy, Harry T. Immerman, D. P. Krynine, F. A. Marston, George Paaswell, and Charles Terzaghi.

As in the past, Engineering Foundation continues to show a great interest in this work. It is co-operating financially and otherwise with the Society in these efforts to obtain new basic information and correlate modern thought on engineering problems in which knowledge of earths is involved.

ARE SKYSCRAPERS ECONOMICAL?

Obviously, the answer to such a complicated question cannot be made categorically—too many variables are involved. To these considerations an interesting book of 150 pages under the title of "The Skyscraper" has recently been devoted by W. C. Clark and J. L. Kingston, representing, respectively, the standpoints of banking or economics, and architecture.

The viewpoints of the private owner are stated explicitly and, in conjunction with this, the argument for the public as to the general economic efficiency. Other considerations as to public health, such as light, air, and noise; and as to public safety, such as danger from fire, quakes, and windstorms; and, finally, as to economical effects on traffic congestion are all considered.

From all the welter of opposing arguments or viewpoints, various conclusions emerge. Everything considered, the authors' "conviction is that the skyscraper has tremendous possibilities for public good, that these possibilities should be allowed to develop into actualities, and that community control should content itself with flexible regulations designed to minimize evils that might accompany unregulated development".

Both from his business and professional points of view, the engineer is vitally interested in these findings. Credit is due to the American Institute of Steel Construction, Inc., 200 Madison Ave., New York, N. Y., for placing these views before the public. Members interested in this and correlated subjects may obtain the book directly from the Institute at a cost of \$2 per copy.

SOCIETY COMMITTEE ON DAMS

For a long time the importance of dams as engineering structures and the relation of the profession thereto has been a subject of wide discussion. Within the Society, the opinion has developed that an authoritative treatment of the principles, procedures, and practices which together constitute the art and the science of structures for the impounding of water would be helpful:

- (a) To the profession as a whole, as a general pronouncement.
- (b) To the individual engineer, by assembling in compact compass an outline of those things which ought to be done and which constitute sound practice.
- (c) To State and other authorities, as a reference of approved principles of design, of precautions and procedures necessary before, during, and after construction, of qualities of material used, and of the general equation of stability and safety.

The study of this broad subject has been referred by the Board of Direction to a Committee on Dams, recently appointed by President Coleman and consisting of the following members: Thaddeus Merriman, *Chairman*, Messrs. Allen Hazen, D. C. Henny, J. B. Lippincott, H. deB. Parsons, Silas H. Woodard, and Charles B. Wing.

This Committee has a real job to do. With its high ideals and expert personnel, the Society may rightly expect this Committee to do much toward advancing the practice of dam construction.

Local Sections*

Central Ohio.—March 13, 1930. This regular meeting of the Section was held at the Chittenden Hotel in Columbus. A communication was read relative to current legislation in Congress, regarding the establishment of a National Hydraulic Research Laboratory, after which Professor F. H. Eno presented an address on "Soil Investigations" and other researches relating to highway engineering. Attendance 27.

Colorado.—February 10, 1930. A regular meeting of the Section was held at the Athletic Club in Denver. Among other business matters, a resolution was passed favorable to the bill now pending in Congress for the establishment of a National Hydraulics Laboratory. The business meeting was followed by a brief presentation of reclamation work in Russia by Mr. R. J. Tipton, who then introduced Mr. Thomas Nelson Skormakoff, Consulting Engineer of the Russian Asiatic Reclamation Service. Some of the problems connected with the construction of the sewerage system in Honolulu were described by Mr. B. G. Coy, and a résumé, of the events of the Annual Meeting of the Society recently held in New York, N. Y., was given by Mr. F. C. Carstarphen. The theme of the evening was an illustrated address by Mr. E. W. Lane on "Chinese Engineering." A general discussion of the subject concluded the meeting. Attendance 41.

Connecticut.—March 14, 1930. This was a dinner meeting of the Section held at the University Club in Hartford. The questionnaire sent to members of the Society by the Board of Direction, and other matters of a business nature were discussed, after which the meeting was adjourned. Attendance 13.

Dayton.—March 17, 1930. The regular meeting of the Section was held at noon at the Engineers Club. F. O. Eichelberger, City Manager of Dayton, gave a detailed explanation of the railroad grade crossing elimination project on which construction has just begun in Dayton. The ultimate cost of this undertaking will be \$25 000 000. Attendance 40.

Detroit.—January 16, 1930. A dinner meeting of the Section was held at the Detroit Engineering Society Clubhouse in honor of the return of Mr. and Mrs. George H. Fenkell from Japan, where they had attended the World Engineering Conference. Attendance 65.

January 30-31, 1930. The Section contributed its support to the Fourth Michigan Engineering Conference held at Ann Arbor, Mich.

March 11, 1930. This was a joint meeting of the Section and the Detroit Engineering Society, held at the Detroit Engineering Society Clubhouse where dinner was served. The speaker of the evening was the Hon. Grover C. Dillman, State Highway Commissioner of Michigan. Mr. Dillman spoke on "Michigan's Highway Transportation System—Resources and Distribution of Funds". A discussion followed, participated in by Messrs. Walker, Trout, Fellows, Hubbell, Molitor, and President Wasson. Attendance 56.

* For list of Local Section Officers, Rules, etc., see 1930 Year Book, p. 49.

Georgia.—March 3, 1930. A business session was held at the regular meeting of the Section in Atlanta. Routine matters were discussed and committee reports presented. A letter from W. E. Darrow, Consulting Engineer, Columbus, Ga., relative to the reprint on "The Ethics of Engineering", was read; also, a resolution was passed in favor of legislation in aid of the profession, now pending in Congress. A paper was then presented on "The Construction of the Cooper River Bridge, Charleston, S. C.", by Alexander Allaire, Southern Manager, The Foundation Company. Mr. Allaire illustrated his subject with lantern slides. Attendance 28.

Los Angeles.—March 12, 1930. A meeting of the Section was held at the Engineers' Club, preceded by a short meeting of the Juniors of the Society. Dr. Andrew Elliott Douglas, Leader of the National Geographic Society's Tree Ring Expedition, and Director, Steward Observatory, University of Arizona, addressed the meeting on "Tree Rings and Their Relation to Rain-fall Records and Climatic Conditions".

Miami.—March 24, 1930. A dinner meeting of the Section was held at the McAllister Hotel. Matters of local importance were discussed, followed by the introduction of Earle R. Evans, Vice-President of the McKiernan-Terry Corporation, and J. C. French, Secretary of the Miami Builders Exchange. Mr. French gave a brief résumé of the proposed Building Code for the City of Miami. Mr. Charles P. Nieder then spoke on the needs of the Community Chest Fund and, in conclusion, George P. Morrill, District Manager of the Raymond Concrete Pile Company, gave an illustrated talk on "Concrete Piling". Attendance 16.

Rochester.—March 7, 1930. A testimonial dinner was held by the Section at the University Club, in honor of Mr. Edwin A. Fisher who has recently been received into honorary membership by the Society. A business meeting followed, at which reports on pending legislation affecting engineers and architects were given. Several communications were read, after which a brief talk was given by Mr. E. Van R. Payne on the construction of the Smith Street Bridge, including the 55-year history of the original, triple-intersection, continuous, 800-ft. trusses of the old iron bridge. Mr. Fisher was then further honored by anecdotes of his early career and associations, each account being a tribute to his professional ability and admirable character. Mr. Fisher added a few words in conclusion. Attendance 32.

Sacramento.—January 28, 1930. H. M. Huberty, of the Davis Experiment Station, University of California, addressed the Section on "Use of Water Studies in the Sacramento Valley". Attendance 55.

February 4, 1930. "Ballistics" was the subject of a talk given by Gen. J. J. Borree. Attendance 37.

February 11, 1930. M. B. Pratt, State Forester, addressed the Section on "The Forests of California". Attendance 44.

February 18, 1930. This meeting was devoted to a general discussion of the Society's Questionnaire on proposed changes in membership qualifications. Attendance 51.

February 25, 1930. Mr. Claude L. McKesson read a paper on "Emulsified Asphalt". Attendance 55.

March 4, 1930. The Society's Questionnaire was again discussed. Attendance 46.

San Diego.—February 27, 1930. At a dinner meeting held at the San Diego Athletic Club, Mr. L. J. Mensch, of Chicago, Ill., addressed the Section on "Recent Tendencies in Reinforced Concrete Design". A discussion of the questionnaire sent to members by the Board of Direction followed. Attendance 22.

Tacoma.—February 10, 1930. At this meeting of the Section, held at the Winthrop Hotel, Mr. J. G. Heinz gave an outline of the part which the Government Reclamation Service has taken in the development of the Yakima Valley from a desert country into one of the richest fruit and general farming districts in the United States. He also described in detail the latest Government irrigation projects in the Valley. Attendance 23.

March 10, 1930. Mr. Joseph Jacobs, Director of the Society, gave an outline of the work of the Board of Direction and its achievements at the Annual Meeting of the Society recently held in New York, N. Y. Mr. Walter J. Ryan addressed the meeting on the "Lumber Industry", and, by means of motion pictures, showed the latest methods of logging and the manufacture of lumber. Attendance 33.

Texas.—March 20-21, 1930. The Spring Meeting of the Section was held at Waco. A paper was presented by Mr. O. N. Floyd on the subject of "The Lake Waco Dam on the Bosque", and a discussion of the subject followed. Mr. C. A. Wallerstedt then read a paper on "Features of the Atlas Cement Plant", and C. C. Hays, City Chemist of Waco, chose as his subject, "Operating Results of the Waco Sewage Plant". A discussion followed. Luncheon was served by the Atlas Portland Cement Company of Waco, after which there was an inspection tour of the Lake Waco Dam, the Universal Atlas Cement Plant, the Sewage Disposal Plant, the Borden Milk Plant, and the Division Supply Yard of the State Highway Department. In the evening an informal dinner was held in the ballroom of the Hilton Hotel. On Friday morning papers were presented on the following subjects: "Engineering Research", by F. E. Giesecke; "The Design of a Comprehensive Highway System", by E. P. Arneson; and "The Design and Paving of Airports", by A. D. Stivers and John H. Strange. Discussion of the first two subjects then followed. In the afternoon, a business session devoted to Section matters was held. Resolutions were passed in appreciation of the support given this meeting of the Section. Attendance 88.

Engineering Societies Library

The services of the Engineering Societies Library are available to all members who wish searches, copies, translations, etc., or advice on technical literature. A collection of modern books is also available for loan to members in North America, at moderate rentals. Correspondence should be addressed to the Director, Engineering Societies Library, 29 West 39th Street, New York, N. Y., who will gladly give information concerning the charges for the various kinds of work. A more comprehensive statement in regard to this matter will be found on pages 77, and 78 of the Year Book for 1930.

Book Notices*

(March 1 to March 31, 1930)

Economic Geology. By H. Ries. Sixth Edition. N. Y., John Wiley & Sons, 1930. 860 pp., illus., maps, tab., 9 x 6 in., cloth. \$6.00.

The new edition of this standard work has been brought up to date, both in subject matter and statistics, but without marked change in arrangement or size.

Practical Mechanics and Strength of Materials. By Charles W. Leigh and John F. Mangold. Second Edition. N. Y., McGraw-Hill Book Co., 1930. 420 pp., illus., diagrams, 8 x 5 in., cloth. \$2.75.

This textbook for night schools and vocation schools, covers those principles that are essential for the practical man, using only elementary mathematics.

Sewerage and Sewage Disposal. By Leonard Metcalf and Harrison P. Eddy. Second Edition. N. Y., McGraw-Hill Book Co., 1930. 783 pp., illus., diagrams, tab., 9 x 6 in., cloth. \$6.00.

This textbook, based on the authors' three-volume treatise, "American Sewerage Practice", presents the essentials of the subject. This edition has been almost entirely rewritten and revised to include new material.

Additions to the Reading Room

Flood Flows: A Study of Frequencies and Magnitudes. By Allen Hazen, M. Am. Soc. C. E. N. Y., John Wiley & Sons, Inc.; Lond., Chapman & Hall, Ltd., 1930. 207 pp. maps diagrams, tab., 9 x 6 in., cloth. \$4.00. (Gift of Mr. Hazen.)

In this book those previously published methods of estimating flood quantities that seem most helpful, have been assembled compactly. Some of the basic data are arranged in convenient form for reference, and much information not elsewhere easily obtainable has been added.

Sewage and Sewage Disposal. By Arthur J. Martin. Lond., Macdonald and Evans, 1930. 62 pp., 8½ x 5½ in., paper. 2s. 6d. net.

This text is composed of two Chadwick Public Lectures delivered at the Institution of Mechanical Engineers on October 15, and 17, 1929. Included are the underlying principles of sewage disposal, a résumé of the changing ideals which have inspired the treatment of sewage in the past, and a survey of the great advances which have been made in recent years.

Standards of Design for Reinforced Concrete. By B. Moreell, Lieut. Commander (C. E. C.), U. S. N., M. Am. Soc. C. E. Washington, D. C., U. S. Navy Dept., Bureau of Yards and Docks, 1930. 222 pp., charts, diagrams, tab., 9 x 6 in., paper. (Gift of Lieut. Commander Moreell). (For sale by the Superintendent of Documents, Government Printing Office, Washington, D. C., 50 cents.)

Much material from previously published works has been here re-arranged in a more useful form. Going beyond generally accepted practice, attention is particularly addressed to the method of analyzing continuous beams and continuous frames.

* The statements made in these notices are taken from the books themselves, and this Society is not responsible for them. Unless otherwise specified, the books in this list have been donated by the publishers.

Current Civil Engineering Literature

Key to Abbreviated References to Publications Indexed*

Abbreviated References.	Publication.	Place.
Am. C. Inst.	American Concrete Institute, Proceedings (Y)	Detroit
A. I. E. E.	American Institute of Electrical Engineers Journal (M.)	New York
A. R. E. A.	American Railway Engineering Association, Proceedings (Y.)	Chicago
A. S. T. M.	American Society for Testing Materials, Proceedings (Y.)	Philadelphia
Am. Soc. C. E.	American Society of Civil Engineers, Proceedings (M.)	New York
Am. Soc. Mun. Impvts.	American Society for Municipal Improvements, Proceedings (Y.)	New York
Am. W. W. Assoc.	American Water Works Association, Journal (M.)	Baltimore
Am. Wood Pres. Assoc.	American Wood Preservers Association, Proceedings (Y.)	Chicago
Ann. P. et C.	Annales des Ponts et Chaussées (Bl-M.)	Paris
Ann. T. P. Belg.	Annales des Travaux Publics de Belgique (Bl-M.)	Brussels
Assoc. Ing. Gand.	Annales de l'Association des Ingénieurs sortis des Ecoles Spéciales de Gand (Q.)	Ghent
Bost. Soc. C. E.	Boston Society of Civil Engineers, Journal (M.)	Boston
Can. Engr.	Canadian Engineer (W.)	Toronto
City Plan.	American City Planning Institute (Q.)	Boston
Comwith. Engr.	Commonwealth Engineer (M.)	Melbourne
Conc.	Concrete (M.)	Chicago
Cornell C. E.	Cornell Civil Engineer (M.)	Ithaca
Dock & Harbour.	Dock and Harbour Authority (M.)	London
Eng.	Engineering (W.)	London
Eng. & Contr.	Engineering and Contracting (M.)	Chicago
Eng. Inst. Can.	Engineering Institute of Canada, Journal (M.)	Montreal
Eng. N. R.	Engineering News-Record (W.)	New York
Engr. Soc. W. Pa.	Engineers' Society of Western Pennsylvania, Journal (M.)	Pittsburgh
Engr.	Engineer (W.)	London
Engrs. & Eng.	Engineers and Engineering, Engineers' Club of Philadelphia (M.)	Philadelphia
Gas und Wasser.	Gas und Wasserfach (M.)	Munich
Gen. Civ.	Le Génie Civil (W.)	Paris
Gesund. Ing.	Gesundheits Ingenieur (W.)	Munich
Inst. C. E.	Institution of Civil Engineers Minutes of Proceedings (Q.)	London
Inst. Mun. & Co. Engrs.	Institution of Municipal and County Engineers, Journal (W.)	London
Int. Ry. Cong. Assoc.	International Railway Congress Association, Bulletin (M.)	Brussels
Land. Arch.	Landscape Architecture (Q.)	Boston
Mech. Eng.	Mechanical Engineering (M.), Journal of the American Society of Mechanical Engineers	New York
Mil. Engr.	Military Engineer (Bl-M.)	Washington
Min. & Metal.	Mining and Metallurgy (M.), American Institute of Mining Engineers	New York
N. E. W. W. Assoc.	New England Water Works Association, Journal (Q.)	Boston
N. Y. R. R. Club.	New York Railroad Club, Proceedings (M.)	Brooklyn
Oest. Ing. Arch. Ver.	Oesterreichischer Ingenieur und Architekten Verein, Zeitschrift (F.)	Vienna
Power.	Power (W.)	New York
Public W.	Public Works (M.)	New York
Rev. Gen.	Revue Générale des Chemins de Fer (M.)	Paris
Ry. Age.	Railway Age (W.)	New York
Ry. Eng. & Main.	Railway Engineering and Maintenance (M.)	Chicago
R. & S.	Roads and Streets (M.)	Chicago
Schw. Bauz.	Schweizerische Bauzeitung (W.)	Zurich
Sci. Am.	Scientific American (M.)	New York
Soc. Ing. Civ. Fr.	Société des Ingénieurs Civils de France, Mémoires et Comptes Rendus (Q.)	Paris
Tech. Gemein.	Technisches Gemeindeblatt (F.)	Berlin
Ver. deu. Ing.	Verein deutscher Ingenieure, Zeitschrift (W.)	Berlin
W. W. & Sewer.	Waterworks and Sewerage (M.)	Chicago
West. City.	Western City (M.)	Los Angeles
West. Constr. N.	Western Construction News (F.)	San Francisco
West. Ry. Club.	Western Railway Club, Proceedings (M.)	Chicago
West. Soc. Engrs.	Western Society of Engineers, Journal (M.)	Chicago
Zeit. Bau.	Zeitschrift für Bauwesen (Q.)	Berlin
Z. d. Bauver.	Zentralblatt der Bauverwaltung (W.)	Berlin

* Y = Yearly; Q = Quarterly; M = Monthly; F = Fortnightly; W = Weekly.

B. Applied Mechanics**a. Mechanics of Solids (Strength of Materials)****6. Heterogeneous Solids (Reinforced Materials)**

Strength of Steel Beams Encased in Concrete. P. W. Leisner. Conc. Feb., '30.
 Studies of Shear in Reinforced Concrete Beams. Discussion: T. D. Mylrea. Am. Soc. C. E. Mar., '30.

b. Hydraulics**3. Industrial Hydraulics**

Water Power Resources of Canada.* N. Marr. Eng. Inst. Can. Feb., '30.
 The Punjab Hydro-Electric Scheme.* Aubrey O'Brien. Engr. Feb. 28, '30.

c. Pneumatics**2. Physical Pneumatics**

Wind on Tall Buildings.* Elwyn E. Seelye. Eng. N. R. Mar. 20, '30.

C. Materials of Construction and General Processes**a. Lime, Cement, Mortar, Concrete, Brick, Bitumen, Timber, Gravel, etc.**

The Effect of Clay As An Admixture in Concrete.* A. N. Vanderlip and H. H. Schofield. Cornell C. E. Feb., '30.
 Berechnung der Schwingungsfestigkeit aus Zugfestigkeit und Trennfestigkeit.* (Calculation of Resistance to Vibration from Tensile Strength and Resistance to Division.) W. Kuntze. Ver. deu. Ing. Feb. 22, '30.
 Festigkeits-Versuche an Holzverbindungen mit abgestuften, geschlossenen Ringdübeln.* (Tensile Strength Tests on Wood Joints with Braced, Closed Ring Dowels.) Ch. Chopard. Schw. Bauz. Serial beginning Feb. 22, '30.

c. Preservation and Use of Materials, Painting, Waterproofing

Report of Committee on Wood Preservation. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 13, '30. (Daily ed.).

g. Execution of Works, Specifications

Handling Large Construction by Contract. F. A. Banks. (From *New Reclamation Era*.) West. Constr. N. Feb. 20, '30.

1. Of Masonry

Report of the Committee on Masonry. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30. (Daily ed.).

5. Of Reinforced Concrete

Operating a Public Swimming Pool.* C. E. Barry. Can. Engr. Feb. 25, '30.

h. Foundations, Bridge Piers and Abutments

Foundations for Bank of Manhattan Tower, 40 Wall St., New York.* W. T. McIntosh. Eng. & Contr. Feb., '30.
 Excavate Nine Feet Under the Bottoms of Old Piers.* Ry. Age Feb. 22, '30.
 Reinforcing Railroad Bridge Piers Under Heavy Traffic.* Eng. N. R. Mar. 6, '30.

j. Piles and Pile-Driving

Shrinkage of Piles in Transit a Negligible Quantity.* James W. Orton. Eng. N. R. Feb. 27, '30.
 Belastungsversuche an hölzernen Rammpfählen in Wesermünde-Geestemünde.* (Load Tests on Driven Wooden Piles at Wesermünde-Geestemünde.) Dettmers. Zeit. Bau. Jan. '30.

k. Tunnels and Tunneling-Shields

Vale Irrigation Project Tunnels, Oregon.* H. W. Bashore. West. Constr. N. Feb. 25, '30.
 1316-Ft. C. & O. Ry. Tunnel Eliminated Under Traffic by Deep Open Cut.* Eng. N. R. Feb. 27, '30.
 Driving the Tanna Railway Tunnel in Japan.* Eng. N. R. Feb. 27, '30.
 Plant Used on the Fulton Street-East River Subway Tunnel.* Miles I. Killmer. (Paper read before Constr. Div.) Am. Soc. C. E. Mar., '30.
 Detroit Digs Under to Canada.* Harvey Klemmer. Sci. Am. Mar., '30.
 Lining the Beacon Hill Sewer Tunnel at Seattle.* Eng. N. R. Mar. 13, '30.
 Plan Second Highway Tunnel Under Hudson River.* Eng. N. R. Mar. 13, '30.
 Les Projets de Tunnel Sous-Marin sous le Détroit de Gibraltar.* (Submarine Tunnel Projects under the Strait of Gibraltar.) Gen. Civ. Jan. 4, '30.

l. Construction Machinery and Tools, Drainage

Hydraulic Plant and Its Application to Underpinning Structures Along the Nassau Street Subway. Herbert M. Hale. (Paper read before Constr. Div.) Am. Soc. C. E. Mar., '30.
 Construction Methods and Plant on Cut-and-Cover Subway Work. J. H. C. Gregg. (Paper read before Constr. Div.) Am. Soc. C. E. Mar., '30.

D. Highways**c. Construction**

The Economics of Road Design and Construction. D. A. Crawford. (Abstract of paper read before Economic Soc.) Conwlth. Engr. Jan., '30.
 Bridging a Desert.* B. J. Finch. Cornell C. E. Jan., '30.

- Seattle Repaves Third Avenue with Early Strength Concrete.* Donald R. Holmes. West. City Jan., '30.
- San Francisco Saving and Beautifying Great Highway with Ocean Beach Esplanade.* Jan., '30.
- Pavement Opening and Restoration. (Paper read before Am. Road Bldrs. Assoc.) R. & S. Feb., '30.
- Surface Treated Sand-Clay Roads in Georgia and Florida.* B. P. McWhorter. (Paper read before Asphalt Pav. Conference.) R. & S. Feb., '30.
- Treatment of Subgrades with Bituminous Materials.* C. A. Hogentogler and Henry Aaron. (Paper read before Asphalt Pav. Conference.) R. & S. Feb., '30.
- New Type Construction for Salt Lake City Paving Uses Oil Macadam.* Harry C. Jessen. West. City Feb., '30.
- Building Vaulted Concrete Sidewalks.* Conc. Feb., '30.
- Asphaltic Treatment of Sand-Clay Roads.* W. A. Stacey. Public W. Feb., '30.
- Reconstruction of Highways in Massachusetts.* F. E. Cassidy. Public W. Feb., '30.
- Highway Construction Between Pueblo and Colorado Springs.* P. C. Thurmond. West. Constr. N. Feb. 10, '30.
- Asphaltic Pavement Production, Salinas-Chualar Highway.* R. W. Edwards. West Constr. N. Feb. 25, '30.
- Curing Concrete Pavements by The "Hunt Process".* (From paper read before Northwest Branch, Assoc. Gen'l Contrs. of America.) West. Constr. N. Feb. 25, '30.
- Highway Construction Management.* T. Warren Allen and Richard Hopkins. (Papers read before Highway Div.) Am. Soc. C. E. Mar., '30.
- Status and Progress in the Art of Highway Engineering. (Report for the Highway Division.) Henry B. Drowne. Am. Soc. C. E. Mar., '30.
- Planning Work on Township Roads. H. A. Small. (Paper read before Conference on Road Constr.) Can. Engr. Mar. 4, '30.
- Alignment, Grading and Road Structures. W. J. Moore. (Paper read before Conference on Road Constr.) Can. Engr. Mar. 4, '30.
- Highway Construction in York County. H. C. Rose. (Paper read before Conference on Road Constr.) Can. Engr. Mar. 4, '30.
- Stone Conservation in Low-Cost Roads. W. Huber. (Paper read before Conference on Road Constr.) Can. Engr. Mar. 4, '30.
- Township Road Construction in Ontario. H. T. Eaton. (Paper read before Conference on Road Constr.) Can. Engr. Mar. 4, '30.
- Winter Paving with Asphaltic Concrete on Macadam Base.* Walter H. Flood. Eng. N. R. Mar. 13, '30.
- Missouri County Plans Systematic Modernization of Highways.* William M. Spann. Eng. N. R. Mar. 13, '30.

d. Maintenance

- The Maintenance of County Highways.* Leon F. Walker. R. & S. Feb., '30.

e. Street Cleaning, Dust Prevention, Snow Removal

- Units of Measurement for Street Sanitation.* (From Report read before Nat'l Comm. on Mun. Standards.) R. & S. Feb., '30.

h. Vehicles, Automobiles, Traffic

- Street Traffic Control Signals. (From Report of Am. Eng. Council Comm.) R. & S. Feb., '30.
- Meeting the Demands of Highway Traffic.* Gilmore D. Clarke. Mil. Engr. Jan.-Feb., '30.

E. Bridges, Viaducts and Arches

a. Timber Bridges and Viaducts

- Report on Wooden Bridges and Trestles (Am. Ry. Eng. Assoc.) Ry. Age Mar. 14, '30 (Daily ed.).

b. Iron and Steel Bridges and Viaducts

- Fabrication and Erection of the Superstructure of the Montreal-South Shore Bridge.* L. R. Wilson. Eng. Inst. Can. Jan., '30.
- New Bridge to Link Cities, States and Highways in Pacific Northwest.* West. City Feb., '30.
- The Repair of Steel Bridges by Electric Arc Welding.* C. M. Taylor. Eng. & Contr. Feb., '30.
- Suisun Bay Bridge for Southern Pacific Co.* H. I. Benjamin. West. Constr. N. Feb. 25, '30.
- General Specifications for Steel Railway Bridges.* (Prepared by Committees from Am. Soc. C. E. & Am. Ry. Eng. Assoc.) Discussion: M. F. Clements, Benjamin W. Guppy, R. C. Strachan, Charles Evan Fowler, Paul A. Blackwell, W. H. Courtenay, R. B. Houston, L. P. Drew, F. P. Shearwood, C. M. Goodrich, William Michel, H. A. Gerst, H. Austill, and B. A. Wood. Am. Soc. C. E. Mar., '30.
- Design and Erection—Kill van Kull Arch.* Allston Dana. Discussion: C. W. Hudson, D. B. Steinman, Gustav Lindenthal and Charles Evan Fowler. (Papers read before Struc. Div.) Am. Soc. C. E. Mar., '30.
- Plans and Research—Kill van Kull Bridge.* O. H. Ammann. Discussion: C. W. Hudson, Jonathan Jones, Leon S. Moisseiff, C. M. Spofford, C. E. Chase and Charles Evan Fowler. (Papers read before Struc. Div.) Am. Soc. C. E. Mar., '30.
- Report on Iron and Steel Structures. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 13, '30 (Daily ed.).

d. Concrete and Reinforced Concrete Bridges and Viaducts

- Designing the Hyperion Viaduct at Los Angeles.* Merrill Butler and A. L. Enger. Eng. N. R. Mar. 20, '30.
- Concrete Bridge Construction in Walla Walla County.* Edward R. Smith. Public W. Feb., '30.

Pont en Béton Armé de 126 Mètres de Portée, sur l'Oise à Conflans-Fin-d'Oise, près Paris.* (Reinforced Concrete Bridge with 126 Meter Span Over the Oise at Conflan-Fin-d'Oise, near Paris.) R. Vallette. Gen. Civ. Feb. 1, '30.

h. Computations, Tests, etc.

On the Question of the Investigation Into the Static and Dynamic Stresses in Railway Bridges.* Alberto Fava. Int. Ry. Cong. Assoc. Dec., '29.

On the Question of the Investigation Into the Static and Dynamic Stresses in Railway Bridges.* A. A. C. Ronse and R. Desprets. Int. Ry. Cong. Assoc. Dec., '29.

F. Inland Waters and Waterways

a. Natural Waterways (General Articles)

Ohio River Canalization—Its History and Possibilities.* C. W. Kutz. Eng. N. R. Mar. 13, '30.

Report of Committee on Rivers and Harbors. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 14, '30 (Daily ed.).

c. Regulation of Waterways—Volume of Discharge, Freshets, Floods, Soundings

Why the Low-Water Stage at Cairo Is Getting Higher.* Ramey Williams. Eng. N. R. Mar. 6, '30.

d. Diverting Dams, Locks, Lifts, Elevators, Inclined Planes

Lock and Dam Near Hastings, Minnesota.* R. C. Williams. Mil. Engr. Jan.-Feb., '30.

g. Consolidation of Banks, Leakage, Maintenance of Channel

Concrete Revetment on the Mississippi River.* Theodore T. Knappen and Victor J. Brown. Eng. & Contr. Feb., '30.

Experiments on the Delaware River.* George B. Pillsbury. Mil. Engr. Jan.-Feb., '30.

Development of Structures on the Missouri.* Rudolph E. Smyser, Jr. Mil. Engr., Jan.-Feb., '30.

G. Maritime Works

c. Vessels and Maritime Navigation, Lighthouses, Buoys, Various Signals

Le Développement du Moteur Diesel dans ses Applications à la Grande Navigation.* (Development of the Diesel Engine in its Applications to Ocean Navigation.) G. Lumet. Soc. Ing. Civ. Fr. Pt. 7, '29.

h. Wharves, Mooring Buoys, Harbor Equipment

Notes on Dockyard Electrification. Dock & Harbour Feb., '30.

Poland's Access to the Sea: The Ports of Danzig and Gdynia.* Eng. Feb. 21, '30.

i. Harbors

The Port of New York. Dock & Harbour Feb., '30.

The Port of Fiume and Its Problem.* Dock & Harbour Feb., '30.

H. Railroads. Street and Interurban Railways. Automobiles. Aeronautics

a. Railroads

1. General Articles

On the Question of Penetration Railways.* Pierre Jourdain. Int. Ry. Eng. Cong. Dec., '30.

On the Question of the Use of Concrete and Reinforced Concrete on Railways. E. Krick. Int. Ry. Cong. Assoc. Dec., '29.

New Line for Kansas City Southern Railway.* Eng. N. R. Mar. 6, '30.

Report of Committee on Standardization. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30 (Daily ed.).

Report on Rules and Organization. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30 (Daily ed.).

Report on Water Service and Sanitation. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30 (Daily ed.).

Report on Records and Accounts. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 14, '30 (Daily ed.).

Southern Pacific Completes New Traffic Link.* Ry. Age Mar. 15, '30.

Report on Economics of Railway Location. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 14, '30.

3. Roadbed (Grading Construction Work)

Pere Marquette Railway Extends Its Concrete Roadbed.* Paul Chipman. Eng. N. R. Feb. 27, '30.

Report of the Committee on Roadway. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30 (Daily ed.).

Report of the Committee on Ballast. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 13, '30 (Daily ed.).

4. Track

To Fight Winter Snows.* F. W. Alexander. (Paper read before World Eng. Cong. Ry. Eng. & Main. Feb., '30.

Protecting the Tracks from Mud Slides.* Ry. Eng. & Main. Feb., '30.

Why Do Intermediate Manganese Steel Rails Fail.* H. H. Morgan and J. R. Mooney. Ry. Age Mar. 8, '30.

Report on Stresses in Track. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30 (Daily ed.).

- Report of the Committee on Ties.* (Am. Ry. Eng. Assoc.) Ry. Age Mar. 13, '30 (Daily ed.).
 Report of Committee on Track.* (Am. Ry. Eng. Assoc.) Ry. Age Mar. 13, '30.
 Report of the Committee on Rail. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 13, '30 (Daily ed.).
- 5. Signals and Safety Apparatus**
 On the Question of Signalling of Lines for Fast Traffic and in Main Stations. Daylight Signals. Automatic Block System.* J. Kristensen. Int. Ry. Cong. Assoc. Dec., '29.
 The New Swiss Regulations Relating to the Gates and Signalling of Level Crossings.* Hans. Hunziker. Int. Ry. Cong. Assoc. Dec., '29.
 C. & O. Installs New Interlocking and Either-Direction Signaling.* C. E. Taylor. Ry. Age Feb. 22, '30.
 Report on A-C. Block Signaling. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 11, '30 (Daily ed.).
 Report on D-C. Block Signaling. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 11 (Daily ed.).
 Report on Overhead and Underground Lines. (Am. Ry. Eng. Assoc.) Mar. 11, '30 (Daily ed.).
 Report on Economics of Signaling. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 11, '30 (Daily ed.).
 Report on Standard Designs.* (Am. Ry. Eng. Assoc.) Ry. Age Mar. 11, '30 (Daily ed.).
 Report on Signaling Practice. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 11, '30 (Daily ed.).
 Report of Committee on Grade Crossings.* (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30 (Daily ed.).
 Report of Committee on Contracts. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30 (Daily ed.).
 Report of Committee on Interlocking. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30 (Daily ed.).
 Report on Highway Crossing Protection. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30 (Daily ed.).
 Report on Signaling Instructions. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 12, '30 (Daily ed.).
 Report on Signals and Interlocking. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 13, '30 (Daily ed.).
 The Missouri Pacific Installs Centralized Signal Control on 43 Miles of Single Track.* Ry. Age Mar. 15, '30.
- 6. Rolling Stock, Fuel**
 On the Question of Electric Locomotives for Main Line Traction.* Giuseppe Bianchi. Int. Ry. Cong. Assoc. Dec., '29.
 On the Question of Economical Traction Methods for Use in Particular Cases.* H. Hunziker. Int. Ry. Cong. Assoc. Dec., '29.
 What Kind of a Motor Car.* C. R. Knowles. Ry. Eng. & Main. Feb., '30.
 British Build 4-6-4 Type Locomotive of Novel Design.* Ry. Age Feb. 22, '30.
 Chicago & Eastern Illinois Makes Locomotive Fuel Tests.* Ry. Age Mar. 8, '30.
 The 4-8-2 Type Express Locomotive of the Chemin de Fer de L'Est.* Monkswell. Eng. Mar. 14, '30.
 Aluminum in Tank-Car Construction.* Ry. Age Mar. 15, '30.
 Freight Locomotives for the Bangor & Aroostook.* Ry. Age Mar. 15, '30.
- 7. Uses of Electricity**
 Report of the Committee on Electricity. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 14, '30 (Daily ed.).
 Electrification of the Visp-Zermatt Railway.* Engr. Mar. 21, '30.
 Die Elektrisierung der Berliner Stadt- Ring- und Vorortbahnen.* (Electrification of the Berlin Municipal, Circular, and Suburban Railroads.) Paul Dittes. Oest. Ing. Arch. Ver. Serial beginning Feb. 14, '30.
- 8. Stations, Terminals, Engine Houses, Shops**
 On the Question of the Methods to be Used in Marshalling Yards to Control the Speed of Vehicles Being Shunted, and to Ensure They Travel on to the Lines in the Various Groups Sidings.* Pellarin and Farenc. Int. Ry. Cong. Assoc. Dec., '29.
 Recent Terminal Improvements of the Boston and Maine Railroad.* Frank C. Shepherd, Bost. Soc. C. E. Jan., '30.
 Treating Plant Removes 430 Tons of Mud.* C. M. Bardwell. Ry. Eng. & Main. Feb., '30.
 Canadian National Builds Large Shop at Montreal.* Ry. Age Mar. 1, '30.
 The Reclamation and Handling of Track Materials.* D. C. Curtis. (From paper read before Main. of Way Club.) Ry. Age Mar. 8, '30.
 Report on Shops and Locomotive Terminals. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 13, '30 (Daily ed.).
 Report of Committee on Clearances.* (Am. Ry. Eng. Assoc.) Ry. Age Mar. 13, '30 (Daily ed.).
 Report on Yards and Terminals. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 13, '30 (Daily ed.).
 Report of Committee on Buildings. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 14, '30 (Daily ed.).
- 9. Technical and Commercial Use**
 On the Question of Competition of Road Transport. Alexandre Waslutynski. Int. Ry. Cong. Assoc. Dec., '30.

d. Street Railway, Elevated Railways, Subways

- 1. General Articles**
 Les Extensions du Métropolitain de Paris. Prolongements des Lignes No. 7 et No. 10.* (The Extensions of the Paris Metropolitan. Prolongations of Lines No. 7 and No. 10.) L. Suquet. Gen. Civ. Feb. 13, '30.
 Erweiterung des Berliner Untergrundbahnnetzes.* (Extension of the Berlin Subway System.) Z. d. Bauver. Feb. 5, '30.

f. Aeronautics

- 2. Dirigible Ballons**
 Rigid Airships.* E. W. Stedman. Eng. Inst. Can. Feb., '30.
- 3. Aeroplanes**
 The Airship R 101.* Eng. Serial beginning Feb. 14, '30.

I. Municipal Water-Works. Agricultural Engineering. Irrigation

a. General Articles

- Pumping and Filtration Costs of a Small Town Water System. W. S. Davis. Am. W. W. Assoc. Jan., '30.
- The Water Supply of Flatbush, New York.* A. T. Ricketts. Am. W. W. Assoc. Jan., '30.
- San Francisco Water Supply Progress. M. M. O'Shaughnessy. Am. W. W. Assoc. Jan., '30.
- The Combined Operation of Water and Light Plants. J. D. Donovan. (Paper read before Kansas W. W. Assoc.) W. W. & Sewer. Feb., '30.
- Water Supply Development on Santa Catalina Island.* J. B. Lippincott. West. City Feb., '30.
- Seattle's Water Supply System.* A. Gilbert Darwin. West. Constr. N. Feb. 10, '30.
- Status and Progress in the Art of Sanitary Engineering. (Report for the Sanitary Engineering Division.) Am. Soc. C. E. Mar., '30.
- Water Supply for City of Hamilton. A. E. Berry. Can. Engr. Mar. 11, '30.
- Windsor and District Water Supply.* J. Clark Keith. Can. Engr. Mar. 11, '30.
- Wasserleitungsröhren aus Metall.* (Metal Water-Pipe.) Gamann. Tech. Gemein. Jan. 20, '30.
- Ueber die Grösse und Höhenlage der Ausgleichsbehälter einheitlicher Wasserversorgungen.* (On the Sizes and Altitudes of the Equalizing Reservoirs of Unitary Water Supplies.) Kehr. Tech. Gemein. Jan. 20, '30.
- Tiefbrunnen-Kreiselpumpen.* (Deep-Well Centrifugal Pumps.) W. Schulz. Ver. deu. Ing. Feb. 22, '30.

b. Hydrology, Water Resources

- Some Idiosyncrasies of Ground Waters.* W. D. Gerber. Am. W. W. Assoc. Jan., '30.

c. Dams and Reservoirs

- The Mount Morris Dam.* Carl C. Cooman. Cornell C. E. Jan., '30.
- The Boulder Canyon Dam.* Frank B. Campbell. Cornell C. E. Feb., '30.
- The Coolidge Multiple-Dome Dam.* Fred A. Noetzli. Eng. Serial beginning Feb. 14, '30.
- Break in Downstream Dike at Saluda Dam Releases Segregation Pool.* Eng. N. R. Feb. 27, '30.
- State Supervision of the Design and Construction of Dams. A. H. Markwart. Discussion: W. P. Creager. (Paper read before Power Div.) Am. Soc. C. E. Mar., '30.
- State Supervision of the Design and Construction of Dams. A. H. Markwart. Discussion: W. P. Creager, Charles Rufus Harte, John P. Hogan, Joel P. Justin, Ford Kurtz, Edward H. Sargent and F. W. Scheldenhelm. (Papers read before Power Div.) Am. Soc. C. E. Mar., '30.

d. Analysis and Purification of Water

- Trends in Municipal Zeolite Water Softening.* W. J. Hughes and H. B. Crane. Am. W. W. Assoc. Jan., '30.
- The Present State of Apparatus for Hydrogen Ion Measurements.* Crandall Z. Rosecrans. Am. W. W. Assoc. Jan., '30.
- Water System Contamination by Improper Consumer Usage. Samuel B. Morris. West. City Jan., '30.
- Cracks in Filter Beds.* W. W. & Sewer. Feb., '30.
- Zeolite Water Softening for Municipal Purposes.* H. B. Crane. (Paper read before Kansas W. W. Assoc.) W. W. & Sewer. Feb., '30.
- Pollution of Abandoned Well Causes Fond du Lac Typhoid Epidemic.* Eng. N. R. Mar. 6, '30.

e. Distribution of Water

- Electric Pumping at Beloit, Wisconsin.* C. F. Dobson. Am. W. W. Assoc. Jan., '30.
- Safeguarding and Eliminating Cross Connections in New York State. C. A. Holmquist and Earl Devendorf. Am. W. W. Assoc. Jan., '30.
- Some Water Works Corrosion Problems.* Ira D. Van Glesen. Am. W. W. Assoc. Jan., '30.
- The Use of Pumps at Fires. Clarence Goldsmith. Am. W. W. Assoc. Jan., '30.
- Pump Discharge Headers and Pump Piping for Water Works Stations. F. G. Cunningham. Am. W. W. Assoc. Jan., '30.
- River Crossings on the East Bay Aqueduct.* F. W. Hanna. West. Constr. N. Feb. 10, '30.
- Irrigation Hydraulics. (Progress Report of the Special Committee.) Am. Soc. C. E. Mar., '30.
- Interstate Water Matters. (Progress Report of the Irrigation Committee.) Am. Soc. C. E. Mar., '30.
- Cross-Connection Elimination War in Texas Cities. W. N. Dashleil and Edgar Whedbee. (Paper read before Texas W. W. Short School.) Eng. N. R. Mar. 13, '30.
- Das Rückpumpwerk Duisburg.* (The Duisburg Back-Pumping Plant.) Mahr. Z. d. Bauver. Jan. 29, '30.

J. Sewerage. Sewage and Refuse Disposal

- Status and Progress in the Art of Sanitary Engineering. (Report for the Sanitary Engineering Division.) Am. Soc. C. E. Mar., '30.
- Committee Reports of Sanitary Engineering Division. Am. Soc. C. E. Mar., '30.

a. Sewers and Drains

- Berkeley Storm Sewer System.* S. A. Hart. West. Constr. N. Feb. 10, '30.
- Drainage Outlets and Drainage Acts. W. G. McGeorge. (Paper read before Conference on Road Constr.) Can. Engr. Mar. 4, '30.

b. Sewage Disposal, Purification

- How Pomona Makes Money Selling Sewage Effluent for Irrigation Use.* F. C. Froehde. West. City Jan., '30.
- Sewage Discharge from Below Sea Level Tank in New System.* H. W. Jorgensen. West. City Jan., '30.
- Bleaching Powder as an Auxiliary Treatment of Sewage. Herbert D. Bell. (Paper read before British Assoc. Mgrs. of Sewage Disposal Works.) W. W. & Sewer. Feb., '30.
- Gas Production from Imhoff Tanks.* Harold E. Babbitt and Harry E. Schleng. (From *Bulletin* pub. by Eng. Exp. Station.) W. W. & Sewer. Feb., '30.
- Slag as a Medium in Sewage Trickling Filters. Charles C. Hommon. (From Report pub. by Nat'l Slag Assoc.) W. W. & Sewer. Feb., '30.
- Revamping Old Sewage Treatment Plants.* Frederick G. Nelson. (Paper read before Sewage Treatment Conference.) W. W. & Sewer. Feb., '30.
- Gas Pressure Bursts Sludge Pump.* C. E. Keefer. Public W. Feb., '30.
- Filtering Materials for Water and Sewage Works. (Progress Report of the Comm. of San. Eng. Div.) Discussion: Earnest Boyce and Herbert F. Kriege. Am. Soc. C. E. Mar., '30.
- Pulverizing of Sewage Screenings at Baltimore, Maryland. Discussion: N. T. Veatch, Jr. Am. Soc. C. E. Mar., '30.
- Pre-Determining the Extent of a Sewage Field in Sea Water.* Discussion: A. M. Rawn and H. K. Palmer. Am. Soc. C. E. Mar., '30.
- Sludge Treatment in Sewage Disposal—A Comparison of British and German Practice.* T. P. Francis. Inst. Mun. & Co. Engrs. Mar. 4, '30.
- Current Changes in British Sewage-Works.* M. N. Baker. Eng. N. R. Mar. 6, '30.
- Sanitation in China as Noted by an American Engineer.* Harold F. Babbitt. Eng. N. R. Mar. 20, '30.

K. Heat Engines**b. Steam Turbines**

- Versuche an Kondensations-, Gegendruck-, Anzapf-, und Doppelanzapf-Dampfturbinen.* (Experiments on Condensing, Back-Pressure, Extraction and Double-Extraction Steam Turbines.) K. Jaroschek. Ver. deu. Ing. Feb. 22, '30.

c. Gas and Oil Engines

- The Diesel Engine—Its Place in Industry.* West. Soc. Engrs. Dec., '29.
- Trials of a 2750 B. H. P. Exhaust Turbo-Charged Marine Oil Engine.* C. J. Hawkes. Engr. Feb. 28, '30; Eng. Feb. 28, '30.

L. Electricity**b. Distribution and Transmission of Electricity**

- Status and Progress in the Art of Power Engineering.* (Report for the Power Division.) Geo. A. Orrok. Am. Soc. C. E. Mar., '30.
1. **Power Plants**
- High-Pressure Extensions to the Issy-les-Moulineaux Power Station.* Engr. Feb. 14, '30.
2. **Long-Distance Transmission of Energy**
- The Design of Supporting Structures for Transmission Lines.* C. A. Booker and H. O. Weber. Bost. Soc. C. E. Feb., '30.
3. **Welding**
- Notes on Dockyard Electrification. Dock & Harbour Feb., '30.

d. Mechanical Uses of Electricity

3. **Welding**
- Electric Welding by the Carbon Arc.* J. C. Lincoln. A. I. E. E. Feb., '30.
- Lichtbogenschweißung im Werkzeugmaschinenbau.* (Arc Welding in Machine Tool Construction.) E. Rosenberg and W. Senft. Ver. deu. Ing. Feb. 22, '30.

f. Signals and Communication

- Transoceanic Telephone Service—General Aspects.* T. G. Miller. A. I. E. E. Feb., '30.

M. Architecture**a. Educational, Government and Scientific Buildings**

- Der Jubiläumsneubau des Kunstinstituts der Universität Marburg.* (The New Jubilee Building of the Marburg University Art Institute.) Lütcke. Zeit. Bau. Jan., '30.
- Städtisches Realgymnasium Datteln in Westfalen.* (Municipal Classical High School of Datteln, Westphalia.) Z. d. Bauver. Feb. 12, '30.

d. Storage Buildings

- Repairing a Fire-Damaged Grain Elevator in Cold Weather.* Edgar Stephens. Conc. Feb., '30.

g. Other Buildings

- Sound Reflector of Novel Design for Hollywood Bowl Stage.* O. G. Bowen. Eng. N. R. Mar. 6, '30.
- Municipal Swimming Pool at Hamilton.* E. H. Darling. Can. Engr. Mar. 11, '30.
- Evangelischer Kirchenbau.* (Evangelical Church Building.) Z. d. Bauver. Feb. 19, '30.

h. Roofs, Domes

Steel Framing Simplicity in 53-Story Lincoln Building.* Albion N. Van Vleck. Eng. N. R. Mar. 6, '30.

O. Administration. Legislation. Economics. Statistics**d. Administrative and Financial Management of Means of Communication****2. Routes and Roads**

Waterway Transportation from the Viewpoint of Operation.* T. Q. Ashburn. Am. Soc. C. E. Mar., '30.

Railways Versus Waterways: An Economic Comparison.* L. D. Cornish. Am. Soc. C. E. Mar., '30.

Relation Between Rail and Waterway Transportation. E. A. Hadley. Am. Soc. C. E. Mar., '30.

5. Railroads and Street Railways

Engineering Costs on Railroad Construction.* H. E. Hale. Eng. N. R. Feb. 27, '30.

Report on Economics of Railway Operation. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 14, '30 (Daily ed.).

Report on Uniform General Contract Forms. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 14, '30 (Daily ed.).

Report on Economics of Railway Labor. (Am. Ry. Eng. Assoc.) Ry. Age Mar. 14, '30 (Daily ed.).

e. Legislation—Question Concerning Wages and Working Conditions

A Philosophy of Engineers' Salaries.* Ernest P. Goodrich. Am. Soc. C. E. Mar., '30.

Q. Surveying and Geodesy

Status and Progress in the Art of Surveying and Mapping. (Report for the Surveying and Mapping Division.) Am. Soc. C. E. Mar., '30.

R. Landscape Engineering

How a City of 13 000 Built a Sub-Tropical Park in Six Years' Time.* Forrest Forbes. West. City Jan., '30.

S. City Planning

Rentable Parks.* Migge. Z. d. Bauer. Jan. 29, '30.

Regional Plan Is Adopted by Seventeen Cities.* Bryant Hall. West. City Feb., '30.

Canals Are Filled to Become Modern Traffic Arteries.* West. City Feb., '30.

Garden Cities and Their Relation to Town Planning. S. C. Baggott. Inst. Mun. & Co. Engrs. Feb. 18, '30.

The Planning of Capital Cities: Denver, Colorado. Discussion: George H. Herrold. Am. Soc. C. E. Mar., '30.

Engineering Societies Employment Service

The Engineering Societies Employment Service is under the joint management of the National Societies of Civil, Mining, Mechanical, and Electrical Engineers. A Chicago office is maintained in co-operation with the Western Society of Engineers, and a San Francisco office, in co-operation with the Engineers' Club of San Francisco and the California Section of the American Chemical Society. The Service is available only to the several memberships and is maintained by contributions from the Societies and their individual members who are directly benefited.

Offices.—Eastern Office, 31 West 39th Street, New York, N. Y., Walter V. Brown, Manager; Chicago Office, 205 West Wacker Drive, 1216 Engineering Building, Chicago, Ill., A. Krauser, Manager; and San Francisco Office, 57 Post Street, Room 715, San Francisco, Calif., Newton D. Cook, Manager.

Men Available.—Under this heading, brief announcements will be published without charge. These announcements will not be repeated, except on request received after an interval of one month. Notices for *Proceedings* should be addressed to Employment Service, 31 West 39th Street, New York, N. Y., and should be received prior to the first of the month.

Opportunities.—A Bulletin of engineering positions available is published weekly and may be obtained by members of the Societies concerned at a subscription rate of \$3 per quarter, or \$10 per annum, payable in advance. Positions which are not filled promptly as a result of publication in the Bulletin, may be announced herein.

Placement Fees.—The Service is operated on a co-operative basis, whereby those benefiting contribute in accordance with the following rates: One and one-half per cent. of the first year's salary for permanent positions. Temporary positions, six months or less, 3% of the total salary received, payable monthly.

Replies to Announcements.—Replies to announcements published herein, or in the Bulletin, should be addressed to the key number indicated in each case, with two two-cent stamps attached for re-forwarding, and forwarded to the Employment Service at the address given. Replies received by the Service after the positions to which they refer have been filled, will not be forwarded.

MEN AVAILABLE FOR ENGINEERING TEACHING

ASSOCIATE PROFESSOR OF CIVIL ENGINEERING, Assoc. M. Am. Soc. C. E.; B. S. in C. E. and C. E. degrees; age 42; married; university education. Seventeen years' teaching experience in college and university; also valuable years of practical work in structural field. Wishes position with greater opportunities than that now held. Would especially welcome opportunity to inaugurate or build up civil engineering course. A-1259.

HEAD OF CIVIL ENGINEERING DEPARTMENT, M. Am. Soc. C. E., of a Mid-Western University, is available as dean of engineering or professor of civil engineering or industrial organization. Twenty-five years' experience in engineering, administration, and education. A-1584.

PROFESSOR OF CIVIL ENGINEERING, M. Am. Soc. C. E.; age 44; department

head, 10 years, and director of hydraulics, material testing, highway, and concrete laboratories. Twenty-four years' experience. Wide range of teaching experience, including organization and executive work. Fair range of practice. Qualified for position as Dean of Engineering. B-3192.

CIVIL ENGINEER, M. Am. Soc. C. E., will consider teaching or executive position in university. Experience; teaching, civil engineering, six years; irrigation, five years; executive work, engineering, surveys, and construction, seven years; sales and industrial engineer and advertising, ten years. Minimum salary, \$6 000 per year. Now holding responsible executive position. B-3340.

TEACHER IN PROFESSIONAL ENGINEERING, M. Am. Soc. C. E., with long and successful practical career as an engineer,

author, and speaker, seeks responsibilities of an executive position of importance in the educational field. B-3354.

ASSOCIATE PROFESSOR OF CIVIL ENGINEERING, Assoc. M. Am. Soc. C. E., with M. S. and C. E. degrees. Twelve years' practical experience in highway, railway, drainage, irrigation, topographic, and hydrographic surveys; design, reports, estimates, etc. Ten years' experience in teaching surveying, railway, drainage, irrigation, and civil engineering drawing. B-3519.

CIVIL ENGINEER, M. Am. Soc. C. E., desires position teaching civil engineering or allied subjects; age 41; married; graduate in civil engineering from leading university, with seventeen years' practical experience and two years' teaching. Member of American Water Works Association. B-5135.

CIVIL ENGINEER, Assoc. M. Am. Soc. C. E.; graduate, Polytechnical University, Europe, 1919; degree of C. E.; majored in bridges; citizen; married; age 37. Ten years' experience, design and consulting, bridges, power plants, tall buildings, towers. Expert of statically indeterminate structures. Desires teaching position: Bridges, mechanics, statics, graphic statics, theory of statically indeterminate systems. B-5176.

STRUCTURAL ENGINEER, Assoc. M. Am. Soc. C. E.; Univ. of Michigan graduate. Fifteen years' experience, including three years' teaching, desires Professorship or Associate Professorship teaching structural engineering or allied subjects. B-6157.

DIRECTOR OF ENGINEERING AND PROFESSOR OF CIVIL ENGINEERING, M. Am. Soc. C. E., desires similar position as head of department of civil or highway engineering, or Dean in a recognized institution. Mass. Inst. Tech. graduate; trained executive; exceptional record of fifteen years' practical experience. Prefers East or Middle West. B-6574.

CIVIL ENGINEER, M. Am. Soc. C. E.; age 51. Twenty-five years' municipal engineering, administrative, and executive experience, and four years, teaching civil engineering subjects, is open for teaching position in the East. B-7033.

PROFESSOR OF CIVIL ENGINEERING, M. Am. Soc. C. E.; Sigma Xi; Phi Beta Kappa; married. Fifteen years, engineering. Eleven years, college teaching, five, department executive. Several papers in *Proceedings*, Am. Soc. C. E., on research in concrete design and indeterminate analysis. Desires position, with University with research facilities, teaching subjects of post-graduate or senior grade. Now employed. B-7675.

PROFESSOR OF CIVIL ENGINEERING, M. Am. Soc. C. E.; Master's degree in Civil Engineering; age 39; married; ten years' practice; eight years' teaching. Varied responsible experience, special in sanitary. Will consider responsible teaching or other position. Available July 1. B-7678.

UNIVERSITY INSTRUCTOR, Assoc. M. Am. Soc. C. E., desires assistant professorship;

Master's degree in Sanitary Engineering; seven years' teaching experience; nine years' general engineering experience. B-7758.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; B. S. in C. E., 1924; C. E., 1926; topography, mapping, transportation, location, tests, design, and research work. Desires teaching position with large university with opportunity for consulting work. C-1965.

INSTRUCTOR, CIVIL ENGINEERING, Jun. Am. Soc. C. E.; B. S. in C. E.; age 24; single. Two years' experience in highway location and construction. One year in Northern State university, teaching surveying, plotting, masonry, and graphic statics. Prefers position in Southern or Eastern college. C-4719.

CIVIL ENGINEER, M. Am. Soc. C. E.; age 54; college and university graduate; has degree of C. E. from well-known university; twenty-one years' teaching experience in large engineering school; practical experience in civil engineering; has permanent engineering teaching position, desires change to more responsible position. C-5096.

ENGINEER, PROFESSOR, Jun. Am. Soc. C. E.; B. S. (Engineering); M. S. (Hydraulics and Sanitary Engineering); age 29; married; practical experience, road and bridge construction and lot subdivisions. Four years' responsible teaching. Now assistant professor, surveying, engineering drawing, engineering problems. Has taught mechanics, machine drawing, descriptive geometry. Three years in present position. Desires change. C-5726.

PROFESSOR, CIVIL ENGINEERING, Assoc. M. Am. Soc. C. E.; graduate C. E., 1920; age 35; married; ten years' broad experience in steel, concrete, hydraulics; one year, assistant professor, desires connection with first-class college to teach in addition to general engineering the subject of indeterminate systems with special attention to welded and reinforced concrete structures. C-5774.

GRADUATE CIVIL ENGINEER, Assoc. M. Am. Soc. C. E.; B. S. and M. S. degrees in civil engineering; age 29; married; eight years' experience in reinforced concrete and structural steel building construction; experienced in coaching engineering students. Desires position to teach structural engineering subjects. Location, United States. Excellent references. C-6794.

CIVIL ENGINEER, Assoc. M. Am. Soc. C. E.; age 31; graduate 1923; married; licensed engineer. Seven years' experience in design and construction. Wishes position as instructor in civil engineering subjects. Available in September. C-6923.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; B. S. in C. E., 1926; M. S. degree, 1929; (Major in Structures); age 25; married. One and one-half years' experience in detailing, estimating, and designing reinforced concrete structures; two years (half-time teaching) as graduate assistant in civil engineering; six months as structural steel draftsman. Desires position as instructor for academic year 1930-31. C-7137.

MEN AVAILABLE FOR ENGINEERING PRACTICE

CONSTRUCTION EXECUTIVE, Assoc. M. Am. Soc. C. E.; age 36; married; graduate civil engineer; general contractor's engineer, with fifteen years' all-around experience on industrial, commercial, and apartment types of buildings. Eight years with present contractor in charge of estimates and construction. Available May 1st. A-3439.

rience on industrial, commercial, and apartment types of buildings. Eight years with present contractor in charge of estimates and construction. Available May 1st. A-3439.

CONSTRUCTION ENGINEER OR SUPERINTENDENT. M. Am. Soc. C. E. More than thirty years specialized experience abroad on construction, railways, hydro-electric, reinforced concrete, wharves, and industrial type buildings. Experience, West Indies, South America, France, Far East. Speaks Spanish. Can handle by administration or supervise local contractors, making contracts, etc. Just returned from South America. Will go anywhere. A-5380.

CIVIL AND SANITARY ENGINEER. Assoc. M. Am. Soc. C. E.; age 41; graduate; with twenty-one years' experience, mostly on design and construction of water-works and sewerage projects of considerable magnitude. Recent experience involves administrative charge of major projects. B-6809.

CIVIL ENGINEER. M. Am. Soc. C. E.; age 40; technical education. Over twenty years' experience, consultations, investigations, reports, supervision, design, surveys, and construction, on port and harbor works, waterways, terminals, railroads, irrigation, industrial plants, water-front, and miscellaneous structures, buildings, foundations, etc. Fifteen years' responsible charge and specialization, water-front development, terminals, etc. B-7393.

CIVIL ENGINEER. Assoc. M. Am. Soc. C. E.; age 39. Twelve years' experience, location, construction, highways, including preparation of plans, estimates, reports; seven years, railroads, municipal, surveys, etc.; now in responsible charge, highway development in a foreign country, returns to the States in April. Reciprocal registration. B-7839.

CIVIL ENGINEER. M. Am. Soc. C. E., desires change. Experience on railroad location, construction, and maintenance, including thorough studies of grade reduction and the design of modern hump yards. Has been on recent large projects. B-9037.

CIVIL ENGINEER; college graduate, 1926; married; desires position with building or general contractor on Long Island or in New York City. C-2620.

CIVIL ENGINEER. Assoc. M. Am. Soc. C. E.; technical graduate; age 35; married. Experience: Four years', machine shop, manufacture of hardware; one year, highway design, construction; three years, assistant resident engineer, hydro, steam power, developments; one year, building contractors; six months, suspension bridge construction; three years, general design, steel, timber, concrete. Desires permanent position, civil engineer, New York State or New England. Conscientious; available immediately. C-3897.

GRADUATE CIVIL ENGINEER. M. Am. Soc. C. E. Twenty-six years' experience, design and construction; water-works, purification plants, sewers, industrial buildings, store buildings, Government work, etc. Five seasons, teaching night classes, industrial school. Good executive. Desires position as city engineer, superintendent of construction, or professor in engineering in college. C-5688.

GRADUATE CIVIL ENGINEER. Jun. Am. Soc. C. E.; 1929; able to speak Russian, desires position with concern

planning work in Russia. Will go there if necessary. Has seven months' experience on highways as party chief, and six months on construction estimates and drawings for subway construction. Well grounded in plan reading and estimating. C-5839.

CIVIL ENGINEER. Jun. Am. Soc. C. E.; age 23; received B. S. degree, 1928, will receive M. S. degree, 1930. One summer, surveying experience. One year, concrete highway construction experience. Doing research work now. Desires employment in New York City in June. C-6249.

ASSISTANT ENGINEER. Assoc. M. Am. Soc. C. E.; age 32; single; graduate. Airport engineering with consulting engineer wanted by Associate Member; two years, highway construction; 1½ years, terminal and waterway project; four years, structural, bridge, and railway drafting and design. C-6321.

RECENT GRADUATE CIVIL ENGINEER. Jun. Am. Soc. C. E.; some experience in surveying, highway work and detailing. Desires work, part or full time, outside. Location anywhere, preferably South. Position in South America with company offering work upon return to the States is acceptable. C-6966.

GRADUATE CIVIL ENGINEER. Jun. Am. Soc. C. E.; age 25; open for appointment after June 15. Six months, surveying; two years, detailing, estimating, and designing concrete buildings; one and one-half years, estimating and office engineering with general building contractor. At present, graduate student in structural engineering. Prefers Eastern or Central location. C-7112.

MUNICIPAL AND SANITARY ENGINEER. Jun. Am. Soc. C. E.; B. S. in C. E. degree. Registered in Michigan; age 30; married. Seven years' experience, design and construction of general municipal and drainage structures as follows: Two years with consulting engineering firm; two years with municipality; three years, county drain work. Desires position near Michigan. C-7147.

CIVIL ENGINEER. Jun. Am. Soc. C. E.; age 30; Polytechnical Institute in Europe; graduate, Univ. of California; three years in Europe: Hydraulics, irrigation, structural design; two years' American experience: Drainage, irrigation, investigation surveys, ditching with dynamite; languages: Spanish, Russian; knowledge of French, German. Desires new connection with opportunity for growth. Location immaterial. C-7182.

CONSTRUCTION ENGINEER. Assoc. M. Am. Soc. C. E.; age 54; married; engineering education. Twenty years' experience on location, design, and construction of harbor, subdivision, highway, and municipal work. Especially qualified to supervise street and drainage design and construction. Available at once. Location, Southern California or West Coast. C-7200-303-A-12. San Francisco.

CIVIL ENGINEER. Assoc. M. Am. Soc. C. E.; Licensed Engineer, New York State. Ten years' experience, manufacturing plant building design and construction, equipment and plant maintenance. Particularly qualified for plant engineer or executive engineer with architects or consulting engineers. Location immaterial. C-7203.

Membership

(From March 5, to April 1, 1930)

Additions

MEMBERS	Date of Membership.	
ALEXIS, Algert Daniel. Lieut., C. E. C., U. S. N.; Asst. Civ. Engr., U. S. Navy, Care, Engr.-in-Chf., Port-au-Prince, Haiti.	Assoc. M.	Oct. 14, 1929
BARNES, Donald Porter. Teaching Fellow in Eng., California Inst. of Technology (Res., 314 South Allen Ave.), Pasadena, Calif..	Jun.	Mar. 10, 1930
BERRY, Edward Franklin. Associate Prof., Civ. Eng., Coll. of Applied Science, Syracuse Univ. (Res., 613 University Ave.), Syracuse, N. Y.....	M.	Nov. 11, 1929
BROOKS, Boyd Shreve. Poolesville, Md.....	Jun.	Dec. 16, 1929
CAREY, Harold Nevlin. Junior Field Engr., Menefee & Dodge (Res., 610 East Liberty, Apartment 5), Ann Arbor, Mich.....	Jun.	Feb. 10, 1930
CARSON, Walter Simpson. 162 Clinton Ave., Newark, N. J.....	Jun.	Mar. 10, 1930
CHAPMAN, Clifford Frederick. (J. F. Chapman & Son), Hillside (Res., 617 Fairmount Ave., Westfield), N. J.....	Assoc. M.	Feb. 10, 1930
CONNELLY, John Leo. Supt. of Constr., Barrett & Hilp, 918 Harrison St., San Francisco (Res., 5208 Trask St., Oakland), Calif. }	Jun.	Aug. 30, 1926
COX, Charles Raymond. Asst. San. Engr., State Dept. of Health, State Office Bldg., Albany, N. Y.....	Assoc. M.	Feb. 10, 1930
CRAIG, Burt Leo. Chf. Structural Engr., Long Beach Harbor Dept., Room 24, City Hall Annex (Res., 6666 Lime Ave.), Long Beach, Calif.....	Assoc. M.	Mar. 10, 1930
CRAMER, Harry Porter. Development Engr., Armco Culvert Mfrs. Assoc., 701 Curtis St., Middletown, Ohio.....	Assoc. M.	Dec. 16, 1929
DECKER, Elbert Leroy. Project Engr., U. S. Indian Irrig. Service, Wind River, Wyo.....	Assoc. M.	Mar. 10, 1930
DISNEY, Herbert Victor. Bridge Designer, State Highway Dept. (Res., 25 Gifford Ave.), Jersey City, N. J.....	Jun.	June 4, 1928
DORE, Stanley Milburn. Asst. Designing Engr., Chf. Engr.'s Office, Met. Dist. Water Supply Comm., Boston (Res., 120 Manthorne Rd., West Roxbury), Mass.....	Assoc. M.	Oct. 14, 1929
DRIGGERS, Clyde Littleton. 245 Lowry St., Long Island City, N. Y.....	Assoc. M.	Feb. 10, 1930
DUPUY, Alberto. Secy., National Council of Ways and Communications, Ministry of Public Works, Republic of Colombia, Box 893, Bogotá, Colombia.....	Jun.	Oct. 14, 1929
DURHAM, Harry Eugene. Asst. Engr., Kansas City South Ry., 805 K. C. S. Ry. Bldg., Kansas City, Mo.....	M.	Feb. 10, 1930
EGERTON, Sartwell, 25 Park St., Montclair, N. J.....	Jun.	Sept. 10, 1923
ELLER, Edwin Cameron. With Sewage Disposal Dept., City Eng. Dept. (Res., 338 Crescent Ave.), Buffalo, N. Y.....	Assoc. M.	Mar. 10, 1930
ELLIS, Robert Richardson, Jr. Engr., Frederick Snare Corporation, Box 1399, Lima, Peru.....	Jun.	Oct. 14, 1929
ELTON, Herbert Charles. Pres., Herbert C. Elton & Co., Inc., 1001 Main St., Bridgeport, Conn.....	Assoc. M.	Feb. 10, 1930
FIERKE, Marvin Bauer. 4844 St. Anthony Court, Chicago, Ill....	Assoc. M.	Oct. 14, 1929
FLAGG, James Donald. With H. L. Cooper, 318 Henry St., Hasbrouck Heights, N. J.....	Jun.	Oct. 14, 1929
FRANCIS, Frederick Orton. Dept. of Public Works, Div. of Eng., City of Buffalo, Room 6 Municipal Bldg., Buffalo, N. Y.....	Jun.	May 19, 1924
FRAPS, Joseph Anton. Care, State Highway Dept., Phoenix, Ariz.	Assoc. M.	Mar. 10, 1930
GEBHARD, John Charles. Lieut., C. E. C., U. S. N.; Asst. Public Works Officer, Naval Station Narragansett Bay, Naval Training Station, Newport, R. I.....	Jun.	Mar. 10, 1930
GREEN, Archie Wilson, Jr. Bridge Engr., Cia. Constructora Latino-Americana, Apartado 1130, San José, Costa Rica.....	Assoc. M.	Feb. 10, 1930
GREER, Dewitt Carlock. Acting Div. Engr., State Highway Dept., Tyler, Tex.....	Jun.	Dec. 5, 1927
HEBERG, John. Asst. in Civ. Eng., Purdue Univ. (Res., 1715 Thompson St.), Lafayette, Ind.....	Assoc. M.	Feb. 10, 1930
HILL, Hibbert Mosse. Associate Civ. Engr., U. S. Engr. Office, Box J, Commercial Station, St. Paul, Minn.....	Jun.	Jan. 13, 1930
HOFFMAN, James Francis. Chf. of Party, Whitman, Requaardt & Smith, Albany (Res., 247 Fourth Ave., North Troy), N. Y.	Jun.	Oct. 21, 1924
HOLLOPETER, Samuel Lynch. Director Gen., Empresas Publicas Municipales, Barranquilla, Colombia.....	Assoc. M.	Mar. 10, 1930
HOPKINS, Peter Francis. City Mgr. (Res., 419 First St., S. E.), Mason City, Iowa.....	M.	Dec. 6, 1920
HORMANN, Henry Fred. Asst. to Civ. Engr., The New York Edison Co., New York (Res., 419 Eighty-fifth St., Brooklyn), N. Y.....	Assoc. M.	Feb. 10, 1930
HOTARD, Alvin Edgar. 829 Lafayette Ave., Gretna, La.....	Jun.	Mar. 10, 1930
	Jun.	Oct. 14, 1929

MEMBERS—(Continued)		Date of Membership.	
JONES, Carl Tannahill. City Engr., Box 274, Huntsville, Ala. . . .	Jun.	Mar. 10, 1930	
KARRER, Wilfred Leonard. Transitman, Bureau of Reclamation, Owyhee, Ore.	Jun.	Nov. 11, 1929	
KIERNAN, Joseph Thomas. Civ. Engr., United Engrs. and Constructors, Inc., 112 North Broad St., Philadelphia (Res., 330 West Miner St., West Chester), Pa.	Assoc. M. M.	Nov. 9, 1920 Mar. 10, 1930	
LEACH, Harry Raymond. Prin. Asst., Robert E. Horton, Voorheesville, N. Y.	Jun. Assoc. M. M.	Aug. 31, 1915 May 28, 1923 Mar. 10, 1930	
LESUEUR, Samuel Jefferson. Field Engr., Robert J. Cummins (Res., 2010 La Branch St.), Houston, Tex.	Assoc. M.	Mar. 10, 1930	
LIPARI, Attilio Felix. Prin. Asst., F. R. Harris, 10 East 44th St. (Res., 568 West 261st St.), New York, N. Y.	M.	Mar. 10, 1930	
McBRADY, Alphonsus Paul. Engr., 116 Oak Pl., Houston, Tex. McGOVERN, John Murray Joseph. 110 Hawthorne Ave., Yonkers, N. Y.	Assoc. M.	Mar. 10, 1930	
McKINNEY, John V. Executive Vice-Pres., Kansas City Public Service Co., 1500 Grand Ave., Kansas City, Mo.	Jun.	Mar. 10, 1930	
MARMON, Kenneth Goodenow. 122 Maple St., Black River, N. Y. MELLNY, Wilbur Albert. Asst. Structural Engr., New York & Queens Elec. Light & Power Co., Flushing (Res., 40-58 Case St., Elmhurst), N. Y.	M. Jun.	Mar. 10, 1930 Oct. 14, 1929	
Assoc. M.	Mar. 10, 1930		
NIEMAN, Arthur Robert. Designing Engr., Stone & Webster Eng. Corporation, Eldon, Mo.	Jun.	Mar. 10, 1930	
O'BRIEN, James John. Contr. (King & O'Brien), 54 St. Davids Ave., Wayne, Pa.	Assoc. M.	Mar. 10, 1930	
OELSCHLAGER, Lester Paul. 614 Federal St., Camden, N. J. . . .	Jun.	Nov. 11, 1929	
OLSON, Leland, Alfred. Structural Designer, Nickel Plate R. R., Room 905, Terminal Tower (Res., Central Y. M. C. A.), Cleveland, Ohio.	Assoc. M.	Jan. 13, 1930	
OTT, Percy Wright. Associate Prof. of Mechanics, Ohio State Univ., Industrial Eng. Bldg., Ohio State Univ., Columbus, Ohio.	M.	Jan. 13, 1930	
OTTER, John Vernon. Instr., Dept. of Eng. Drawing, Ohio State Univ., Room 205, Brown Hall, Ohio State Univ. (Res., 2253 Indianola Ave.), Columbus, Ohio.	Jun.	Mar. 10, 1930	
OVERHOLT, Harley George. Chf. Architectural Engr., Grade V, City of Chicago School Board (Res., 2560 Estes Ave.), Chicago, Ill.	M.	Feb. 10, 1930	
PARTIN, John Leo. Engr., Grade III, County Surv. Dept., Drainage Div., Los Angeles County (Res., 3324 Drew St.), Los Angeles, Calif.	Jun.	Feb. 10, 1930	
PATTERSON, Archibald Oscar, Jr. Junior Civ. Engr., Bureau of Valuation, Interstate Commerce Comm. (Res., 1900 F St. N. W., Apartment 724), Washington, D. C.	Jun.	Mar. 10, 1930	
PILOTTI, Ernest Jerome. 20 Exchange St., Binghamton, N. Y. . .	Jun.	Oct. 14, 1929	
PRINCIPE, Osvaldo José de Calasanz. Eng. Asst., Board of Transportation (Res., 3671 Broadway), New York, N. Y.	Jun.	Mar. 10, 1930	
REAM, Wilbur Barner. Asst., in Chg. of Designing, Middle Rio Grande Conservancy Dist. (Res., 1205 Las Lomas Rd.), Albuquerque, N. Mex.	Assoc. M.	Oct. 14, 1929	
ROBERTS, Lloyd William. Asst. Res. Engr., State Highway Dept. (Res., 1249 Peden Ave.), Houston, Tex.	Assoc. M.	Feb. 10, 1930	
RUSH, Paul Van. Denton, N. C.	Jun.	Feb. 10, 1930	
SADLER, Clifford Duff. Constr. Engr., H. S. Crocker (Res., 1628 Harrison St.), Denver, Colo.	Jun.	Oct. 14, 1929	
SAMSON, Walter Howard. Junior Engr., Honolulu Sewer and Water Comm. (Res., 600 Wylie St.), Honolulu, Hawaii.	Jun.	Oct. 14, 1929	
SCRIPKO, Nicholas Alexander. Asst. Engr., U. S. National Park Service, 409 Underwood Bldg., San Francisco, Calif.	Assoc. M.	Oct. 14, 1929	
SEELAND, Elias. Steel Designer, E. E. Seelye, 101 Park Ave., New York, N. Y.	Jun.	Feb. 10, 1930	
SENKPIEL, William Christian Gustave. Junior Hydr. Engr., Conservation Branch, U. S. Geological Survey, Washington, D. C.	Jun.	Mar. 10, 1930	
SHIPPEY, Kelley Ford. Junior Engr., U. S. Bureau of Public Roads (Res., 1900 F St. N. W., Apartment 724), Washington, D. C.	Jun.	Mar. 10, 1930	
SNAVELY, Clarence Lichty. Read House, Osceola Mills, Pa. . . .	Jun.	Dec. 16, 1929	
SORKIN, Joseph. Bridge Draftsman, Bridge Dept., Nebraska Public Works (Res., 1219 South 25th St.), Lincoln, Nebr.	Jun.	Nov. 11, 1929	
STRANEY, John William. Asst. Railway Supt., Braden Copper Co., Rancagua, Chile.	Assoc. M. M.	Sept. 11, 1917 Jan. 13, 1930	
TAYLOR, Benjamin Franklin, Jr. Senior Highway Engr., U. S. Bureau of Public Roads (Res., 630 North 41st Ave.), Omaha, Nebr.	M.	Mar. 10, 1930	
TAYLOR, Wyllys Hard. Gen. Mgr., Slater Mfg. Co., Slater, S. C. .	M.	Feb. 10, 1930	
TIENCKEN, Wilfred Patjens. Junior Civ. Engr., Interstate Commerce Comm. (Res., 1736 G St. N. W.), Washington, D. C. . .	Jun.	Dec. 16, 1929	

MEMBERS—(Continued)		Date of Membership.	
VAN REEKUM, Vernon John.	Civ. Engr. and Surv., C. N. Roberts & Keith Roberts (Res., 3513 McLean Ave.), Chicago, Ill.....	Jun.	Mar. 10, 1930
VOIGT, George Quentin.	143 Forest St., Medford, Mass.....	Jun.	Oct. 14, 1929
WALKER, James Gookin.	Service Engr., Alpha Portland Cement Co., 600 Am. Traders Bank Bldg., Birmingham, Ala.....	Jun.	Feb. 10, 1930
WAUGH, Joseph Edward.	200 South 6th St., Gainesville, Fla....	Jun.	Dec. 16, 1929
WEIGAND, George Andrew.	Civ. Engr., Florida Power & Light Co. (Res., 1856 South West 22d Terrace), Miami, Fla.....	Assoc. M.	Dec. 16, 1929
WEISS, Alexander.	94-29 Alstyn Ave., Elmhurst, N. Y.....	Jun.	Nov. 11, 1929
WERTZ, Claude Franklin.	Prin. Asst. Engr., Philadelphia Office, Fuller & McClintock (Res., 6146 North 6th St.), Philadelphia, Pa.....	Assoc. M.	Feb. 10, 1930
WHITLOCK, Ernest Willard.	Engr., Fuller & McClintock, 170 Broadway, New York, N. Y.....	M.	Dec. 16, 1929
WILCOX, Horace Lucerne.	90 Pierrepont St., Brooklyn, N. Y....	Assoc. M.	Feb. 10, 1930

Reinstatements

MEMBERS		Date of Reinstatement.	
FOX, John Angell.....			Mar. 22, 1930
JUNIORS			
NICKLE, Harry Gordon.....			Mar. 11, 1930

Resignations

ASSOCIATE MEMBERS		Date of Resignation.	
SAIDLER, James Roy.....			Mar. 13, 1930
JUNIORS			
DICKMAN, Franklin Joseph.....			Mar. 5, 1930

Deaths

BURROUGHS, Hector Robins. Elected Junior, March 3, 1908; Associate Member, September 6, 1910; Member, July 7, 1915; died December, 1929.
 FELTON, Samuel Morse. Elected Member, January 4, 1882; died March 11, 1930.
 FOSTER, Clarence Marvin. Elected Affiliate, January 31, 1899; died February 18, 1930.
 FRY, George Washington. Elected Associate Member, October 11, 1920; Member, December 3, 1926; died March 13, 1930.
 JUNKERSFELD, Peter. Elected Member, June 16, 1919; died March 18, 1930.
 NORTON, George Harvey (*Director*). Elected Member, April 7, 1915; died March 4, 1930.
 PRATT, William Abbott. Elected Member, July 5, 1882; died March 16, 1930.
 STEINLE, Charles Albert. Elected Affiliate, November 26, 1918; died March 10, 1930.
 STERLING, Guy. Elected Member, January 15, 1917; died February 23, 1930.
 WEBSTER, Albert Lowry. Elected Junior, September 6, 1882; Associate Member, June 3, 1891; Member, April 6, 1909; died March 24, 1930.

Total Membership of the Society, April 1, 1930

Members	5 680
Associate Members.....	6 074
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Corporate Members.....	11 754
Honorary Members.....	17
Juniors	2 362
Affiliates	142
Fellows	7
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Total.....	14 282

